

Bangladesh Demographic and Health Survey

Short Note of BDHS

The Bangladesh Demographic and Health Survey 2014 is a nationally representative survey designed to obtain and provide information on the basis indicator of social progress including fertility, childhood mortality, Reproductive and child health, nutritional status of mothers and children and awareness of HIV/AIDS. Previously, BDHS surveys were carried out in 1993-94, 1996-97, 1999-2000, 2004, 2007, and 2011.

The survey consisted of two parts: a household survey of men and women and community survey around the sample points from which the households were selected.

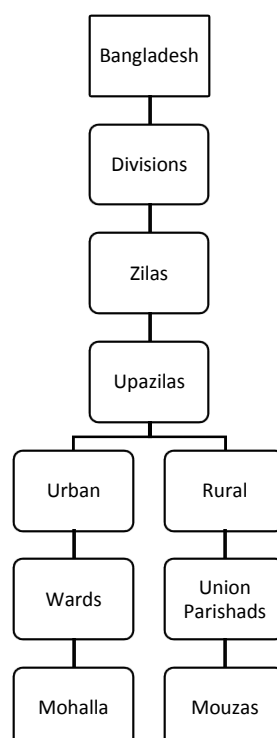
Short Note of BDHS 2014

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The 2014 Bangladesh Demographic and Health Survey (DHS), is part of Phase 7 of the DHS series; a comprehensive, nationally representative household survey series. 17,885 ever-married women ages 15-49 were interviewed from a sample size of 18,000 households. No men were interviewed. In addition to household and women's questionnaires, a community questionnaire was used to collect information from select community members.

Sample Design

Bangladesh is divided into seven administrative divisions: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, and Sylhet. Each division is divided into *zilas*, and each *zila* into *upazilas*. Each urban area in an *upazila* is divided into wards, which are further subdivided into *mohallas*. A rural area in an *upazila* is divided into *union parishads* (UPs) and, within UPs, into *mouzas*. These divisions allow the country as a whole to be separated into rural and urban areas.



Fertility levels and Trends

In 1971-1975, women in Bangladesh were having on average 6.3 children. The total fertility rate (TFR) declined to 5.1 fifteen years later and to 4.3 in 1983-1991. The total fertility rate for the three years preceding the survey is 2.3 births per woman, the same as in the 2011 BDHS. The aim of the 2011-2016 health sector program is to reach a fertility level of 2.0 births per woman by 2016.

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Indicator	Total fertility Rate (TFR)
1975	6.3
1989	5.1
1991	4.3
1993-94	3.4
1996-97	3.3
1999-2000	3.3
2004	3.0
2007	2.7
2011	2.3
2014	2.3

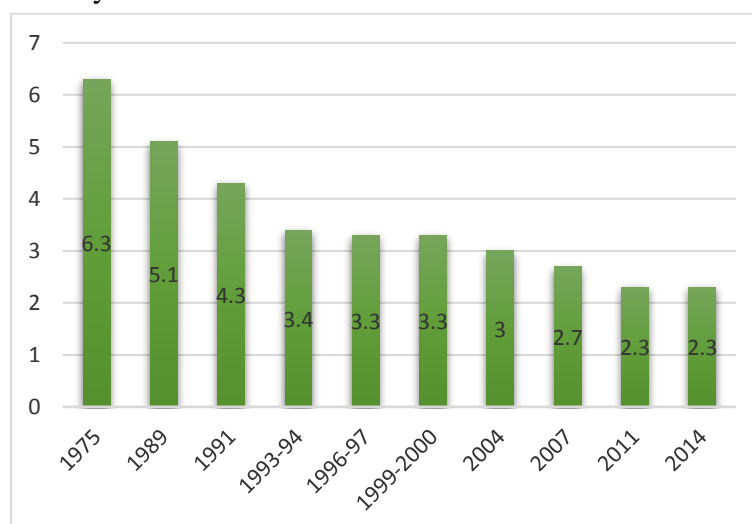


Figure: Graphical representation of trend of TFR as provided by the BDHS

Objectives of the 2014 BDHS

The 2014 Bangladesh Demographic and Health Survey (BDHS) is the seventh DHS undertaken in Bangladesh, following those implemented in 1993-94, 1996-97, 1999-2000, 2004, 2007, and 2011.

The main objectives of the 2014 BDHS are to:

- Provide information to meet the monitoring and evaluation needs of the health, population, and nutrition sector development program (HPNSDP)
- Provide program managers and policy makers involved in the program with the information they need to plan and implement future interventions

The specific objectives of the 2014 BDHS were as follows:

- To provide up-to-date data on demographic rates, particularly fertility and infant, and child mortality rates, at the national and divisional level
- To measure the level of contraceptive use of currently married women
- To provide data on maternal and child health, including antenatal care, assistance at delivery, postnatal care, newborn care, breastfeeding, immunizations, and prevalence and treatment of diarrhea and other diseases among children under age 5

- To assess the nutritional status of children (under age 5) and women by means of anthropometric measurements (weight and height), and to assess infant and child feeding practices
- To provide data on knowledge and attitudes of women about sexually transmitted infections and HIV/AIDS
- To measure key education indicators, including school attendance ratios
- To provide community-level data on accessibility and availability of health and family planning services

The 2014 BDHS was conducted under the authority of the National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. The survey was implemented by Mitra and Associates, a Bangladeshi research firm located in Dhaka. ICF International of Rockville, Maryland, USA, provided technical assistance to the project as part of its international Demographic and Health Surveys (DHS) Program. The U.S. Agency for International Development (USAID) provided financial support.

Short Note on Sampling Design

The 2014 BDHS sample was stratified and selected in two stages. Each division was stratified into urban and rural areas. Except for Rangpur, the urban areas of each division are further stratified into two strata: city corporations and other than city corporations, yielding a total of 20 sampling strata. Urban areas in Rangpur are considered in a separate stratum, since the City Corporation areas are not identifiable in the census frame. Samples of EAs were selected independently in each stratum in two stages. Implicit stratification and proportional allocation were achieved at each of the lower administrative levels by sorting the sampling frame within each sampling stratum before sample selection, according to administrative units in different levels, and by using a probability proportional to size selection at the first stage of sampling. In the first stage, 600 EAs were selected with probability proportional to the EA size and with independent selection in each sampling stratum with the sample allocation given in Table A.2. A household listing operation will be carried out in all the selected EAs, and the resulting lists of households will be served as sampling frame for the selection of households in the second stage. Some of the selected EAs may be of large size. In order to minimize the task of household listing, for the selected EAs which have more than 200 households, each large EA will be segmented. Only one segment will be selected for the survey with probability proportional to the segment size. Household listing will be conducted only in the selected segment (see detailed instructions for segmentation in the *Manual for Household Listing*). So a 2014 BDHS cluster is either an EA or a segment of an EA.

In the second stage of selection, a fixed number of 30 households per cluster will be selected with an equal probability systematic selection from the newly created household listing. The survey interviewer must interview only the pre-selected households. No replacements and no changes of the pre-selected households will be allowed in the implementing stages in order to prevent bias. All ever-married women aged 15-49 who are usual members of the selected households or who spent the night before the survey in the selected households are eligible for the female survey.

Table A.3 shows the allocation of households according to division and urban-rural areas, and Table A.4 shows the expected number of completed women interviews according to division and urban-rural areas. To ensure that the survey precision is comparable across divisions, the sample allocation figures a power allocation between divisions and between different types of residence within each division. Based on a fixed sample take of 30 households per cluster, the survey selected 600 EAs, 207 in urban areas and 393 in rural areas. The survey will be

conducted in 18,000 residential households, 6,210 in urban areas and 11,790 in rural areas. The sample is expected to result in about 17,886 completed interviews with ever married women age 15-49, 6,150 in urban areas and 11,736 in rural areas.

Trend of TFR as provided by the last BDHS

Following figure gives the trends in totals Fertility Rates (TFR), Bangladesh 1975-2014

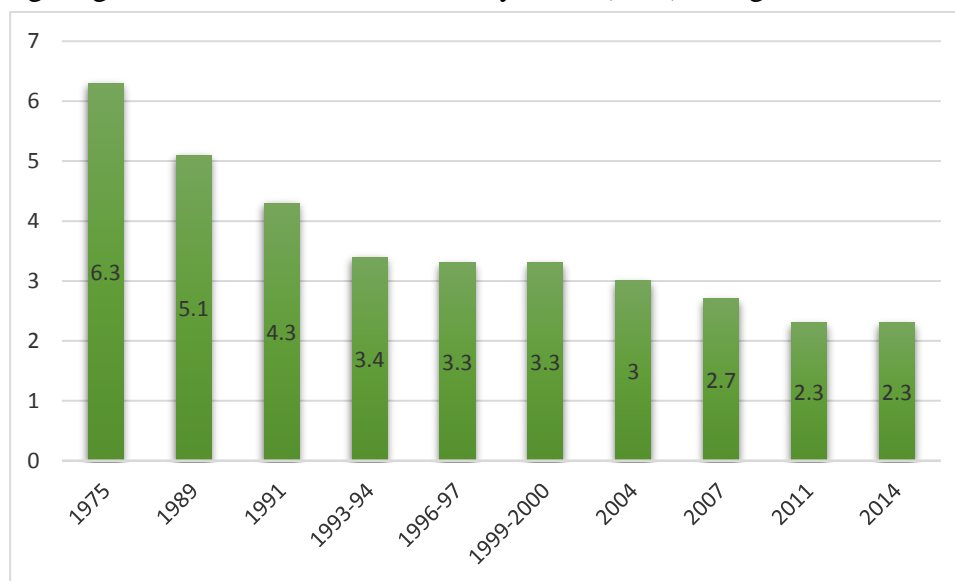


Table:

Trends in fertility in Bangladesh since the early 1970s can be examined by observing a time series of estimates produced from demographic surveys fielded over the last four decades, beginning with the 1975 Bangladesh Fertility Survey (BFS). The TFRs for the seven BDHS surveys since 1993-1994 and the three preceding surveys carried out since 1975 are presented in above Table, and age-specific fertility rates from 2004 to 2014 are presented in the above Figure. The data indicate that fertility in Bangladesh has been declining since the 1970s. The TFR declined sharply from 6.3 births per woman in 1971-1975 to 5.1 births per woman in 1984-1988, followed by another rapid decline in the next decade of 1.8 births per woman to reach 3.3 births per woman in 1994-1996. Following a decade-long plateau in fertility during the 1990s at around 3.3 births per woman, the TFR declined further by one child and remains at 2.3 births per woman since the 2011 BDHS.

Factors affected to change in the family size

The following factors are responsible for changing family size

- Fertility rate
- Mortality
- Types of family
- Migration

Trends of infant, child and Under-five mortality provided by the last BDHS

Mortality rates for children under 5 years of age are presented in the following table

Data source	Approximate reference period	Infant mortality	Child mortality	U-5 mortality
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BDHS 2014	2010-2014	38	8	46
BDHS 2011	2007-2011	43	11	53
BDHS 2007	2002-2006	52	14	65
BDHS 2004	1999-2003	65	24	88
BDHS 1999-2000	1995-1999	66	30	94
BDHS 1996-1997	1992-1996	82	37	116
BDHS 1993-1994	1989-1993	87	50	133

Comparison of neonatal, infant, and under-5 mortality rates in Bangladesh over the last 20 years reveals that neonatal mortality declined at a slower pace than infant and child mortality, with the result that neonatal deaths have changed from 60 percent of all infant deaths in 1993-1994 to 74 percent in 2010-2014. The decline in childhood mortality continues, but at the current pace, it would be difficult to achieve the HPNSDP target of 21 neonatal deaths per 1,000 live births for the neonatal mortality rate by 2016 (MOHFW 2011b)

Calculation of TFR using BDHS data

Age group	No. of live births(f_i)	No. of mothers (m_i)	ASFR
15-19	f_1	m_1	f_1/m_1
20-24	f_2	m_2	f_2/m_2
25-29	.	.	.
30-34	.	.	.
35-39	.	.	.
40-44	.	.	.
45-49	f_7	m_7	f_7/m_7
			$\sum_i ASFR$

$$ASFR_i = \frac{f_i}{m_i} \times K$$

where, f_i = total number of live births at age group i

m_i = Mid-year women population in age group i

k = constant, usually 1000

$$TFR = 5 \times \sum_{i=(15-19)}^{(45-49)} ASFR_i$$

Crude birth rate can be calculated as

$$CBR = \frac{B}{P} \times k$$

Where , B=Total no. of births during a given year
 P=Mid-year pop in that year
 K=constant, usually 1000

Active Wise Indicators with Usefulness

Objective-1: Assess the overall demographic situation

Indicator:

Fertility

Usefulness:

- In order to assess the overall demographic situation, first we have to know the overall fertility levels in Bangladesh.
- Most of the fertility measures are based on the birth histories that are collected from ever-married women aged 15-19
- Fertility indicators are also important to know how differentials in fertility by residence, administrative division, education attainment and wealth index.

Birth interval

Usefulness

- Examination of birth intervals, define as the length of time between two successive live births, is important in providing insight into birth spacing patterns, and subsequently, maternal and child health. Short birth interval are associated with an increased risk of death for mother and child.

Age at first birth

Usefulness

- The onset of child bearing has a direct effect on fertility. Early initiation into child bearing lengthens the reproductive period and subsequently increase fertility. Bearing children at a young age involves substantial risk to the health of both the mother and child. Early child-bearing also tends to restrict educational and economic opportunities for women

Marital status

Usefulness

- Marriage is the most important proximate determinants because it is a primary indicator of women's exposure to the risk of pregnancy. Populations in which age at marriage is low also tend to experience early childbearing, a longer period of exposure to the risk of pregnancy, and thus, higher fertility levels

Age at first marriage

Usefulness

- Marriage in most Asian societies defines the onset of the socially acceptable time for childbearing. Women who marry early will have, on average, a longer period of exposure to pregnancy, often leading to a higher number of children ever born.

Objective-2: Assist in the evaluation of the population and health programs in Bangladesh

Indicator:

Infant and child mortality

Usefulness:

- Infant and child mortality rates reflect a country level of socioeconomic development and quality of life and are used for monitoring and evaluating population and health programs and policies. The rates are also important for monitoring the progress of the United Nations Millennium Development Goal to reduce child mortality two-thirds by 2015.

Maternal and child health

Usefulness:

- This indicator is used various maternal and child health services and the prevalence of important childhood illness. For this, it should be needed for findings on the use of antenatal care, delivery assistance and postnatal care, vaccination coverage, and particular childhood illness and their treatment. This information can be used to identify sub-groups of women and children who are at risk because of nonuse of reproductive and child health services. The information will assist policy makers in the planning of appropriate strategies to improve reproductive and child health.

Need for family planning service

Usefulness:

- Women with unmet need and met need constitute the total demand for family planning. Unmet need is lowest among women with the most education and does not vary much among those with the lower levels of education.

Childhood vaccination

Usefulness:

- Universal immunization of children under one year of age against the six vaccine-preventable diseases is one of the most cost morbidity and Mortality. WHO recommends that children receive all of these vaccines before their first birthday and that the vaccinations be recorded on a health card given to the parents.

Objective-3: Advanced survey methodology

Indicator:

- The major focus to be on an essential service package (ESP) that would benefit vulnerable groups, particularly poor women and children and which would be delivered from facilities close to the population affected.
- The review of performance for the sector would be carried out collectively and annually.